



**MARENA**  
Ministerio del Ambiente  
y los Recursos Naturales



## Bio-CLIMA Nicaragua

**“Integrated climate action for reduced deforestation and strengthened resilience and in the Bosawas and Rio San Juan Biosphere Reserves”**

### Annex 18

**Projects of interest for up-scaling, complementarity and replication**

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## 1. Support for the adaptation to climate change of coffee and cocoa production of small producers in suitable agroclimatic zones (NICADAPTA)

### **Name of Project /Programme:**

Support for the adaptation to climate change of coffee and cocoa production of small producers in suitable agroclimatic zones (NICADAPTA).

### **Executing entity:**

- Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA).
- Ministry of Agriculture (MAG).
- Ministry of Development, Industry and Commerce (MIFIC).
- Nicaraguan Institute of Territorial Studies (INETER).
- Nicaraguan Institute of Agricultural Technology (INTA).
- Institute of Agricultural Protection and Sanitation (IPSA).
- Development Secretariat of the Caribbean Coast (SDCC).

### **Funding:**

CABEI, IFAD (loan and grant).

### **Budget:**

USD 37,051,532

### **Project/Programme execution:**

January 2014 – March 2020.

### **Intervention area:**

56 coffee and cocoa municipalities of Nueva Segovia, Madriz, Estelí, Jinotega, Matagalpa, Boaco, and 7 indigenous territories in the RACCN and RACCS.

### **Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

NICADAPTA has identified differentiated intervention zones and strategies, according to their geographical and socioeconomic characteristics, for the production of coffee and cocoa. Three of these areas coincide with the BioCLIMA intervention area:

#### **a) Coffee-cocoa diversification zone**

The Program promotes productive alternatives in areas that, due to their height, tend to develop marginal coffee production. These areas, in turn, are an opportunity for the establishment of the productive and chain activities of cocoa production, taking advantage of the level of organizational development of coffee producers.

A transition area includes areas of height and areas of natural reserves (Bocay) and areas of transition to the plains (Wiwilí de Jinotega). In addition, they are transition areas from an economy based on agricultural production (coffee and grains) to one that combines grains, dairy and meat. Although there are important organizational initiatives, their cooperatives and associations need a higher level of support.

**b) South zone area of cocoa expansion**

These areas are part of the RACCS and the department of Rio San Juan. In Rio San Juan an important cocoa activity has been developed and the current expansion processes are focused around the municipality of El Rama. So, in the southern territory, mestizo areas (San Juan River, New Guinea, El Rama) are combined, with areas that include Afro-descendant and indigenous territories and communities, mainly Krioles (Creoles) such as Bluefields and Kukra Hill.

The agronomic culture in this area tends to be mainly livestock in the mestizo areas and roots and tubers in the Afro-descendant areas. Includes the area of the Indio Maiz Reserve.

**c) Areas of indigenous peoples**

In this area, some territories have been titled or progress is being made with this process; agroforestry community management is a fundamental element in the relationship between the community and the natural capital of its territories.

The Program strategy combines the production of grains with small livestock, and includes the buffer zones of the BOSAWAS Biosphere Reserve; here are areas of forests, which represent the last line of environmental balance in the country.

The territories considered for the Program implementation are MayangnaSauni As, MayangnaSauniBasSikilta, MayangnaSauniArungkaMatumbak, Twahka and TasbaPri in the RAAN; as well as part of the Kriol Bluefields, Pearl Lagoon Basin and AwaltaraLuhpiaNaniTasbaya territories.

***Lessons learnt:***

According to the Mid Term Review Report (November 2017)<sup>1</sup>, the following lessons learnt can be identified:

- The strengthening of public entities for the development of functions related to the productive areas of coffee and cocoa presents an opportunity to improve the ability to provide public services and specialized information in a timely manner for the benefit of producers to make better decisions and improve its resilience, to maintain product quality and improve productivity.
- NICADAPTA works with community based organizations that have a multiplicity of experiences, accumulated over the years, and are able to demonstrate achievements, share good practices and become prototypes of productive and human development. An example, is the Augusto C. Sandino Multiple Services Cooperative (COOMULACS), which stands out for its stability, openness to change, successful approaches and sustainability.

The Cooperative has formed a network of young promoters whom it has supported in its primary, technical and university training, reaching around 240 young people with scholarships. Over time, many of these scholarship promoters have become Cooperative technicians or prominent producers. One aspect to highlight is that 90% of its partners are enrolled in the certification process of good agricultural practices, which implies a learning and accompaniment process that will allow them to meet quality and environmental criteria and improve marketing relationships of their products.

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<sup>1</sup> <https://operations.ifad.org/documents/654016/81bac027-50fe-403e-a967-e93a9425828c>

- Alliances with specialized entities with experience in adapting to short-term (plantation management and design, disease control and resistance, water and soil management) and long-term (selection of species and varieties, diversification) climate change, allows raising the productivity and maintain the quality of products. Access to climate information will allow producers to make better decisions and improve their resilience.
- The promotion of rural businesses requires investments in line with the management capacity of each organization. The appropriation of the business by the organization, its strategy of inclusion of women and young people, as well as its ability to assume financial risks potentiate successful business opportunities.
- The inclusion of small producers in the markets and the participation in a stable and sustainable manner by their organizations continues to be a challenge, so investments in this segment must be reinforced by their relevance.

### **Objectives**

#### **Main:**

Sustainably improve the living conditions of rural families that produce coffee and cocoa, in four geographical areas of intervention of the Program, incorporating them into markets and reducing their vulnerability to climate change.

#### **Specific:**

1. Improve the competitiveness of cocoa and coffee producers organized in cooperatives by increasing productivity, incorporating good management practices and investments that allow adding value to production.
2. Improve the vegetative material of the cocoa and coffee crops to adapt to the future foreseen climatic changes.
3. Strengthen the capacity of meteorological predictions of public institutions linked to climatic phenomena and dissemination of information among rural producers' organizations.
4. Support the implementation of public policies for the development of cocoa and coffee crops.

### **Components/Outcomes:**

- 1) Increased productivity of coffee and cocoa grown in a sustainable manner.
- 2) Improved institutional management for the generation of agroclimatic information.
- 3) Program management.

### **Brief description:**

The Program aims to improve the living conditions of producer families by increasing the competitiveness and adaptation to climate change of the coffee and cocoa value chains.

Producers associations will be supported in improving their organizational, managerial and productive capacities and the way to facilitate access to technologies and markets to their members. The technologies to be implemented by producers will serve to increase productivity and adaptation to climate change.

The timing of the implementation of the Program is important for two reasons: i) The coffee chain requires interventions by public policy of an anti-cyclical nature, in times of phytosanitary crisis and prices, in order to take advantage of the future opportunities in the market. For cocoa, good market opportunities must be facilitated; and (ii) the implementation of the program will be

complementary to the efforts proposed by the public sector in the coffee chain, promoting that the sector, at an unfavorable moment, be prepared to take advantage of the favorable phase of the cycle.

The target population is small producers with less than 14.1 ha planted with coffee and cocoa, and families of indigenous peoples and Afro-descendants, who live in communities that participate or have the potential to participate in the cocoa and coffee chains.

The goal of the Program is to provide direct assistance to 40,000 families (rural producers of cocoa and coffee) composed of approximately 212,000 people. The activities of the program will allow serving, additionally, 212,930 people considered as indirect beneficiaries, who will receive benefits for the increase in labor demand, for investments in adaptation to climate change and for improvements in road infrastructure. In total NICADAPTA will serve 425,000 people.

The Program identified four intervention zones according to their characteristics for the production of cocoa and coffee. These zones are located in 56 municipalities of the country: 1) Production of quality coffees; 2) Coffee and cocoa transition zone; 3) Cocoa zone of the Caribbean; and 4) South zone of expansion.

The program's targeting strategy responds to geographic criteria related to the agroecological aptitude for coffee and cocoa production in the short, medium and long term (expansion areas), climate change vulnerability, poverty criteria (by gender), inclusion of the most vulnerable population, as well as belonging to indigenous communities and Afro-descendants of the Caribbean Coast.

**Status:**

On going.

## 2. Sustainable Livestock in Nicaragua

### **Name of Project /Programme:**

Sustainable Livestock in Nicaragua.

### **Executing entity:**

National Livestock Commission of Nicaragua (CONAGAN).

### **Funding:**

Multilateral Investment Fund (FOMIN) of the Inter-American Development Bank (IADB).

### **Budget:**

USD 1,648,726

### **Project/Programme execution:**

2017-2020.

### **Intervention area:**

Boaco, Camoapa, Río Blanco, Matiguás, Paiwas and Mulukuku.

### **Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

Bio-CLIMA will encourage the restoration of degraded lands and pastures to bio-silvopastoral systems; In this sense, good practices and lessons learnt from this project could be considered, especially as it is an initiative designed and executed by private owners.

Producers from Paiwas and Mulukuku could be recruited by Bio-CLIMA to scale up inversions of this project.

### **Objectives**

#### **General:**

Develop a scalable Segregated Bovine Production System (SSPB) that allows small and medium producers to improve their competitiveness and increase their income and the Nicaraguan livestock sector to access international markets of greater value and environmental sustainability.

### **Components/Outcomes:**

- 1) Awareness, dissemination and institutional coordination of the project.
- 2) Development of capacities and implementation of the pilot model of the SSPB.
- 3) Formalization of the commercialization of the SSPB.

### **Brief description:**

The project has the challenge of demonstrating in the course of its execution, the concrete benefits to be generated in terms of productivity improvement, environmental management and profitability, through the implementation of the Segregated Bovine Production System (SSPB) and within the same the impulse of Segregated Farms (FS).

The SSPB requires traceability of animals, from birth to industrial slaughterhouses; the FS model aims at the improvement of pastures and practices that optimize feeding, preventive health care and animal healing, and the management of natural resources.

With the project is expected to reach: 300 farms certified under the SSPB; a 10% increase in the average annual income from sale on farms; a 25% increase in the average annual production in kg of meat per hectare; at least 10 thousand tCO<sub>2eq</sub> removed / stored; at least 10% of the certified farms are owned and / or managed by women; 6,000 have been conserved by silvopastoral systems; and an increase in milk production of at least 20% as a result of the implementation of good livestock practices in a double purpose scheme.

The project will allow the National Livestock Commission of Nicaragua (CONAGAN) to implement at the pilot level, a FS Model under the recently approved norm<sup>2</sup>, which can later be replicated among other farms of the associated cooperatives. This standard implies complying with the traceability of the entire herd, implementing productive and reproductive records, certification of herds free of tuberculosis and brucellosis, and complying with animal welfare standards and good livestock practices.

The implementation of the FS model will:

- (i) contribute to changing several of the characteristics of the extensive livestock system, by incorporating improved pastures and paddock division, which will intensify feeding and improve animal / hectare load indicators;
- (ii) introduce preventive and curative health management plans, which will reduce the mortality rate of calves from 4 to 2%;
- (iii) incorporate more efficient technology for traceability in primary production (currently an earring is used that is not easily traceable);
- (iv) introduce measures to adapt to climate change such as ecological management for integrated pest control, the use of bio-digesters to treat manure and slurries (for productive or family use) and water catchment systems; and
- (v) promote the conservation or establishment of 6 thousand hectares under silvopastoral systems, which will contribute to carbon sequestration, avoid soil erosion and improve biodiversity in general.

The project represents the first experience in Nicaragua and Central America to support the implementation of a FS model of bovine production, semi-intensive, led by the private sector, in partnership with the public sector and other actors in the chain. However, the executive resolution that creates the SSPB is relatively recent, this project is an excellent opportunity to test and demonstrate its feasibility, as well as improving the competitiveness of producers.

**Status:**

On going.

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<sup>2</sup> Resolución Ejecutiva No. 016-2015 Creación del Sistema Segregado de Producción Bovina SSPB



### 3. Program to support the livestock value chain in Nicaragua (BOVINOS)

**Name of Project /Programme:**

Program to support the livestock value chain in Nicaragua (BOVINOS).

**Executing entity:**

- Institute of Agricultural Protection and Sanitation (IPSA).
- Ministry of Agriculture (MAG).
- Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA).
- Nicaraguan Institute of Agricultural Technology (INTA).

**Funding:**

Delegated cooperation of the European Union (EU), through the Spanish Agency for International Cooperation for Development (AECID).

**Budget:**

€ 21,723,000

**Project/Programme execution:**

2017-2020

**Intervention area:**

Acoyapa, El Coral, La Libertad, Santo Domingo, Santo Tomás, Villa Sandino, El Almendro, El Ayote, El Rama, Muelle de los Bueyes and Nueva Guinea.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

Producers from El Rama, Muelle de los Bueyes and Nueva Guinea could benefit from Bio-CLIMAs' investments for restoration of degraded lands and pastures to bio-silvopastoral systems.

**Financial mechanism:**

BOVINOS designed a mechanism for financing business plans, which could be replicated by Bio-CLIMA. To be capitalized, each associative group prepares a business plan, with the support and training of the technicians of the MEFCCA delegations; Once the plan is completed, it is referred to the Approval Committee.

The business plan may include the acquisition of equipment, utensils, working capital or infrastructure, being able to select their suppliers from a list of suppliers registered in the MEFCCA headquarters.

Once the business plan is approved, an agreement is signed between the MEFCCA and the associative group, with its corresponding disbursement plan.

The MEFCCA delegations in the territories send the list of required checks to the central MEFCCA, together with the supplier's data, according to the disbursement plan.

Central MEFCCA asks a financial institution (Production Bank) to issue checks in the name of the suppliers or service providers chosen by the beneficiary group. The bank delivers checks to MEFCCA, which in turn sends them to suppliers upon delivery of products.

## Objectives

### **Main:**

Contribute to the development of more productive bovine livestock, with better use of resources and more friendly to the environment, in a competitive, sustainable and inclusive manner, which allows the increase of income, food and nutritional security and the welfare of small and medium livestock producers in Nicaragua.

### **Specific:**

Promote, in a sustainable and inclusive manner, the access of small and medium livestock producers, as well as their organizations, to better services of technological innovation, agricultural health, food security, bovine traceability, financing and technical assistance, within the framework of a strengthening of the national sector policy.

### **Components/Outcomes:**

- 1) In the livestock farms assisted by the Program, improved and sustainable production models are applied, accompanied by better services to support production.
- 2) In the territories served by the Program, animal health, traceability and safety services are improved.
- 3) The rural agro-industry and the community family economy of the livestock sector strengthens its capacity to access the market.

### **Brief description:**

The program will support the strengthening of the bovine value chain, focusing on the improvement of production and productivity, particularly of small and medium producers<sup>3</sup>, orienting them towards a diversified and sustainable type of production, through the establishment of environmentally friendly production systems, as also to add value to Nicaraguan bovine products along the value chain and strengthen marketing, resulting in higher incomes and improvement in the quality of life of the beneficiaries.

The actions will focus on promoting the access of small and medium livestock producers, as well as their organizations, to better production services, technological innovation, health, good livestock practices, bovine traceability and agro-food safety in a sustainable and inclusive manner. The rural agroindustry, the community and family economies within the livestock sector will be supported to access the market, as well as the capacities of the protagonists, of the local and national institutions to provide services that facilitate development. Because of all this effort, it is expected to obtain an increase in the income of families and an improvement of food security. In the medium term, the Program will contribute to the development of a sustainable production model. The negative environmental impact of livestock will be reduced and sanitary measures will be reinforced, contributing to the welfare of the population.

The implementation of the Program considers the inclusion of at least 35% of female protagonists in the different planned activities, empowering and valuing their role, both in the productive aspects as well as in the transformation and bovine value chain, which will positively contribute to the promotion of equal opportunities between men and women protagonists.

The capitalization of women results in an empowerment mechanism that impacts the transformation of their productive units and their incorporation into the market of livestock products with higher

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<sup>3</sup> For the purposes of the Program, a small livestock producer is the one who has less than 50 hectares and a medium-sized cattle producer who has between 50 and 150 hectares.

quality and safety goods, knowledge transfer methodologies and technologies developed in the Program, will apply a gender approach, considering the conditions, needs, positions and productive and reproductive roles of women protagonists, in order to encourage, facilitate, make visible and promote their full participation, individually and collectively.

**Status:**

On going.

#### 4. Rural Development Program on the Caribbean Coast of Nicaragua (NICARIBE)

**Name of Project /Programme:**

Rural Development Program on the Caribbean Coast of Nicaragua (NICARIBE).

**Executing entity:**

- Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA).
- Ministry of Agriculture (MAG).
- Ministry of Environment and Natural Resources (MARENA)
- National Forest Institute (INAFOR).
- Nicaraguan Institute of Agricultural Technology (INTA).
- Nicaraguan Institute of Fisheries and Aquaculture (INPESCA).
- Development Secretariat of the Caribbean Coast (SDCC).
- Regional Governments (GRACCN and GRACCS).
- National Commission for Demarcation and Titling (CONADETI).

**Funding:**

International Fund for Agricultural Development (IFAD) and Central American Bank for Economic Integration (CABEI).

**Budget:**

USD 14,954,000

**Project/Programme execution:**

September 2011 - September 2016 (FIDA) and March 2018 (BCIE).

**Intervention area:**

7 Indigenous and Afro-descendant Territories:

- Río Coco (RACCN): Wangki Maya, Wangki Twi
- Las Minas (RACCN): Tuahka, Matunbak, Mayangna Sauni As
- Laguna de Perlas (RACCS): Laguna de Perlas, Awaltara Luhpia Nani

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

BioCLIMA will promote the conservation of natural forests in indigenous territories, through their sustainable use.

NICARIBE created the Capitalization Fund for Territorial Economic Development (FOCADET), to finance production, farm investments and community investments, in indigenous territories.

Communities, territories and groups could receive a single contribution from the Project as non-refundable financing.

The maximum amounts were:

- Per beneficiary: for investments, USD 600 and for working capital USD 300.
- For investments in physical infrastructure (drinking water, docks, small bridges, solar electricity, communications, etc.), USD 100,000 for each community or group.

The project was responsible for the management of FOCADET through a Regulation, prepared with the Regional Governments, approved by IFAD.

The proposals identified by the population to be financed by the Project, had to be previously approved by the Territorial Authorities in open assemblies (once or twice a year).

Once approved, the proposals were consolidated into a Territorial Development and Investment Plan (PIDT), which was approved in an open assembly. The Territorial Authorities presented the PIDT to the Office of the Regional Coordination Unit (UCR) for processing at the approval instances.

The revision and approval of the PIDT was in charge of a Regional Approval Committee (one in each Region) for proposals of up to USD 50 thousand, and of a National Approval Committee for higher amounts. These committees were made up of the Regional Program Coordinator and the Secretaries of Production, Finance, Planning, the procurement specialist and the Coordinator of the related component.

***Lessons learnt:***

The Final Project Report<sup>4</sup> identified the following lessons learned:

- The institutions of the National System of Production Consumption and Commerce (SNPCC) in the Caribbean Coast, functioned as articulating axes and spaces of dialogue and consensus between the different government levels: national, territorial and communities. Its accompaniment was of great relevance for the strengthening of the self-management capacities of the communities, for the execution of the investments of the project, in a context of dispersed population, in conditions of isolation and with high transaction costs.
- The effective accompaniment of the MEFCCA to community management capacities allowed strengthening the leadership and organization of the Mayangnas communities, and increasing production in productive projects. The three Nicaragua seed bank and capacity building projects in the Mayangnas territories provided positive organizational and productive experiences. Shared management, based on the promotion of community self-management experiences, should continue to be prioritized in the development of new productive and organizational strengthening projects.
- The articulation between the MEFCCA and the different instances of Government, and among themselves, in the Caribbean Regions facilitated the improvement of Nicaragua's results. This involved a process of permanent dialogue with community authorities that are regularly elected according to their internal regulations. It was also important to specify roles and responsibilities between Communal, Territorial and Regional Governments, for the different modalities of program management.

This experience had two positive elements: 1) The rationalization of productive investments in each territory, always considering community participation as the central axis in the selection of the protagonists; and 2) Contribution in the accompaniment to the Communal and Territorial Governments of a better organization of the main families for the execution of productive projects. Productive investments in the Caribbean communities will continue to need effective articulation and communication at different levels of government. In addition, considering that these regions integrate important challenges in the development of crops such as cocoa, coffee, coconut, fishing, among others, it is important to continue with programs to support regional capacity development, with an emphasis on women and youth.

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<sup>4</sup> <https://operations.ifad.org/documents/654016/8f71df7c-6b8e-47a8-9788-ae1db2491138>

- The development of organizational forms typical of the Caribbean communities through the Project strengthened the prominence of participatory associative forms of indigenous and Afro-descendant peoples. The participation of 97 Communal Governments, 7 Territorial Governments and 2 Regional Governments in the Nicaribe Program has contributed to the development and strengthening of their own associative forms in the two Autonomous Regions. Other associations of the South Caribbean Coast Autonomous Region such as Black Famers and the Ulwa Association, which represent the Creole and Ulwas sectors, respectively, have also participated in the Nicaribe Program, being able to strengthen themselves with the active participation of new partners.

Nicaribe accompanied the development of capacities in 7 indigenous and Afro-descendant territories contributing to a national policy that promotes spaces of participation from community cultural practices. Institutional strengthening in the Caribbean regions will need to continue strengthening the promotion, respect and development of forms of association, prioritized by the characteristics of the region and communication mechanisms with those communities farther away.

- Nicaribe's emphasis on production, without considering in certain communities the importance of marketing has had negative effects on some productive projects. The experience of Nicaribe in remote communities that have overproduction of their crops, without marketing support, has had the critical effect of the communities on technical support. It is very important that the different instances of Territorial and Regional Government that accompany the producing families integrate the issue of commercialization into community planning. This necessarily involves a regional analysis that allows effective support and accompaniment to communities on how to project the commercialization of their products, mainly in those communities with important productive potentials.

- The practice of community management based on family and community. The management practice of indigenous and Afro-descendant communities in the Nicaraguan Caribbean is explained by a community management where all the demands of a community are managed before the regional or national authorities: health, education, production. In this practice of community management, family and community are an integral part of community leadership.

In this logic of community management, it is necessary at the regional level that the communication mechanisms between the Communal, Territorial Governments and the Regional Authority continue to be perfected in corresponding to the multiple agendas of the communities and to the particular political-institutional situations of the Caribbean.

The Nicaribe Program Completion Report reveals that the costs per beneficiary family on average were USD 997.3. Project management costs accounted for 20.1% of the total funds, a value explained by the geographical dispersion of the project area, poor infrastructure, logistics and travel costs and difficult environmental conditions.

## **Objectives**

### **Main:**

Improve the income levels of 10,580 families living in indigenous and Afro-descendant territories of the Caribbean Coast selected for the intervention of the Program, supporting the increase of production and management and the sustainable use of natural resources and strengthening their organizations.

### **Specific:**

- i) Achieve levels of economic-productive development of beneficiary families through increased production of products with market value and sustainable exploitation of natural resources;
- ii) Strengthen the local organizations of the beneficiaries and the seven Territorial governments to manage territorial economic development;
- iii) Strengthen institutional capacity for fiduciary aspects and project management.

**Components/Outcomes:**

- 1) Productive development.
- 2) Strengthening for territorial economic management.
- 3) Project management.

**Brief description:**

The Program will have three components:

- 1) Productive Development, which includes activities of technical assistance for production, support for market access, financing, through a Capitalization Fund (FOCADET), productive investments, productive diversification, the aggregation of value and the sustainable use of natural resources;
- 2) Strengthening of local capacities, which includes support activities for strengthening the capacities of beneficiaries, communities, territories and organizations for the identification of investment and development proposals and the strengthening of capacities for fiduciary management and financial management in MEFCCA, GRACCN and GRACCS;
- 3) Project management, which includes management and operational activities for Project implementation and monitoring and evaluation.

The objective of the Component of **Productive Development** is to reach adequate levels of economic-productive development that allow improving the income of the families participating in the project, with income generating activities, products with market value -regional or national-, and improving their food security.

The Component proposes a productive strategy focused on: i) the diversification of the agricultural and forestry production systems with better market options and adaptable to the vocation of soils, climate and customs of the rural communities and families settled in the territories where the project intervenes; and ii) in the sustainable use of forest and fishing resources. The main elements of the productive strategy of NICARIBE are based on endogenous development principles and the introduction of appropriate technology as key elements for change.

The Objective of the Component **Strengthening human, institutional and fiduciary and financial management capacities** is to promote and strengthen the capacities of families and their organizations (community, territorial, economic and social) to ensure their active and real participation in the execution of the activities of the project, so that the processes of community and territorial government and of economic and social management are strengthened and the sustainability of the actions is achieved.

The strategy is based on a strengthening process aimed at the members of the families of the territories, and their different organizational expressions: communities, territories, organizations (companies, cooperatives, and associations). The Component aims to the development, in the medium term, of the self-management capacities to allow an efficient and effective use of the goods and services that the Program will offer and to strengthen the autonomous development processes promoted by Law 28 and by Law 445.

**Status:**

Closed.

## 5. Development program for the dairy sector in the south-west cattle basin of the San Juan River and the Santo Tomás - El Rama route (PRODERUL)

### **Name of Project /Programme:**

Development program for the dairy sector in the south-west cattle basin of the San Juan River and the Santo Tomás - El Rama route (PRODERUL).

### **Executing agency:**

Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA).

### **Funding:**

Government of Italy.

### **Budget:**

€ 7,500,000

### **Project/Programme execution:**

4 years (2013 – 2016).

### **Intervention area:**

Santo Tomás, Villa Sandino, Muelle de los Bueyes, El Rama, San Miguelito and San Carlos.

### **Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

The Program established a trust fund for the sector Livestock / dairy and dairy agribusiness. It would be important to know how it worked to identify lessons learned from Bio-CLIMA for the silvopastoral trust.

### **Objectives**

#### ***Main:***

Increase the contribution of the livestock / dairy sector and the dairy agroindustry to the reduction of poverty of rural producers in the municipalities of Santo Tomas, Vila Sandino, Muelle de los Bueyes, El Rama, San Miguelito and San Carlos.

#### ***Specific:***

Increase in profitability and production of milk and derivatives, thanks to the productive investments covered by the credit line; to the improvement of associative, productive and commercial capacities; to a greater participation of women in the aforementioned activities.

### **Components/Outcomes:**

- 1) Strengthened the organizational capacities of 27 cooperatives and 30 women's groups, which actively contribute to the organization and implementation of the project.
- 2) Improved the productive conditions of at least 75% of the productive units of 27 cooperatives and 30 women's groups.
- 3) Improved associative systems of collection, processing and marketing of milk and its derivatives in at least 27 cooperatives and 12 groups of women.



**Brief description:**

PRODERUL will directly benefit members of 27 existing cooperatives and pre-cooperatives in the project intervention area and 30 women's groups that are already part of the Food Productive Bonus Program<sup>5</sup> (a total of 1,980 producers, mostly small producers), supporting them through training and technical assistance and offering them a 5.6 million Euro credit line through Banco Produzcamos.

This credit line will be used for cooperatives, their associates and the women of the Food Productive Bonus Program, for the improvement of their productivity and infrastructure at farm level and for the improvement of the endowments and associative services.

The access to the credit line will be accompanied by technical assistance and training activity at the productive units level, as well as by activities aimed at strengthening cooperative and associative organizations, in order to achieve an increase and improvement of the quality and diversification of its production and greater articulation with the market.

The strengthening of associative and cooperative capacities will also be pursued thanks to the support of associations of Italian cooperatives, which will accompany their Nicaraguan counterparts in the development of the project.

The project aims to promote greater protagonism and participation of women and young people in the direction of activities and in decision-making.

**Status:**

Closed.

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<sup>5</sup> The Food Production Bonus Program has been executed by the Government of Nicaragua since 2007. Its objective is to strengthen the production of self-consumption food in Nicaraguan rural families through the delivery of plant and animal goods accompanied by technical assistance to achieve greater use of these goods. Subsequently, beneficiary nuclei are formed, to facilitate access to credits, technical training and financial training.

## 6. Improvement of the productive and organizational capacities of cocoa producers in the mining triangle of Nicaragua (PROCACAO)

### **Name of Project /Programme:**

Improvement of the productive and organizational capacities of cocoa producers in the mining triangle of Nicaragua – PROCACAO.

### **Executing entity:**

Ministry of Family, Community, Cooperative and Associative Economy (MEFCCA).

### **Funding:**

- Swiss Agency for Cooperation and Development - COSUDE (USD 4,845,000).
- Government of Nicaragua (USD 759,084).
- United Nations Industrial Development Organization - UNIDO (USD 67,500).

### **Budget:**

USD 5,671,584

### **Project/Programme execution:**

2018-2021.

### **Intervention area:**

Siuna, Bonanza and Rosita.

### **Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

BioCLIMA will promote the establishment of agroforestry systems with cocoa as a measure of restoration of degraded lands and pastures.

Based on the work experience of PROCACAO phase I and the current implementation model of PROCACAO II, the possibility of establishing working alliances with UNIDO to provide technical assistance to producers in Bio-CLIMA intervention areas could be explored.

### **Objectives:**

#### **Main:**

Contribute to the improvement of family income and job creation in the different links of the cocoa value chain in the Mining Triangle, Nicaragua, in a sustainable manner.

### **Components/Outcomes:**

1. Strengthened technical, organizational and business capacities of organized producers, marketing cocoa and agroforestry systems farm products.
2. Increased production, productivity and quality of cocoa and its agroforestry system with measures to adapt to climate change.
3. Financial products developed in a participative manner for production, post-harvest, processing and marketing of cocoa and other agroforestry systems and complementary products.
4. Innovations transfers in cocoa with focus on adaptation and mitigation to climate change and genetic material available.
5. Program management.

**Brief description:**

The program aims to contribute to the improvement of the family income of 1,250 producers, who are part of the cocoa value chain; the generation of jobs; the implementation of climate change adaptation practices and the insertion of young people and women who participate in different links of the cocoa chain.

To achieve it, five products will be developed:

1. Strengthened the technical, organizational and business capacities of organized producers, marketing cocoa agroforestry system products and their farms. This product seeks to strengthen producer organizations and promote their integration under a business approach in the value chain, promote technological innovation and training linked to the business management of the protagonist and their organizations.

2. Increased production, productivity and quality of cocoa and its SAF with measures to adapt to climate change. In the framework of this product, the planting areas of grafted cocoa in the Mining Triangle will be increased in at least 500 mz of agroforestry systems additional to those established in the first phase of the program. It will handle 899 mz of which 277 are hybrid plantations in production and 622 are clonal plantations in development.

An average yield of 8 - 10 qq of dry cocoa per mz in hybrid plantations and 3-4 qq in clonal plantations is expected by 2021.

3. Financial products developed in a participative manner for production, post-harvest, transformation and commercialization of cocoa and other complementary SAF products. A credit fund will be developed for the establishment and management of cocoa areas established by the protagonists, mainly aimed at the acquisition of vegetative material, planting, management and harvesting. Additionally, funds will be provided to the cooperatives and organized groups, so that they can collect, transform and sell cocoa and other items associated with the SAF, as well as other actions that are linked to the business initiatives of the cooperatives.

**Status:**

On going.

## 7. Support to the Wood Value Chain in Nicaragua (CAVAMA)

### Name of Project /Programme:

Support to the Wood Value Chain in Nicaragua (CAVAMA).

### Executing entity:

National Forestry Institute (INAFOR).

### Funding:

- European Union (€ 8,000,000)
- Government of Nicaragua (€ 385,000)
- Other contributions (€ 850,000)

### Budget:

€ 9,235,000

### Project/Programme execution:

2012-2017.

### Intervention area:

South Caribbean Coast Autonomous Region (RACCS) and the departments of Boaco and Chontales.

### Complementarities / synergies to or lessons learnt for Bio-CLIMA:

CAVAMA developed two proposals for national forest incentive strategies. The first, based on national and Latin American experiences, but was not accepted by INAFOR authorities. The second strategy is based on the current tax incentive system for the sector, with three different financial sources: a) INAFOR's own funds; b) general budget of the nation; and c) loans from international financial organizations.

Forest incentives were piloted through subsidies, aimed at small and medium producers, to finance 40% of the production costs of compact plantations or agroforestry systems for a minimum area of 1 hectare and a maximum of 10 hectares per producer.

714 project beneficiaries established 2,422 hectares of plantations under the compact planting system and agroforestry systems. Of these, 690 producers fulfilled the commitments acquired with the project (25% were women), receiving technical assistance and monetary incentives for the establishment and maintenance of their hectares.

Forestry incentives were combined with incentives for 62 producers who offered to take on the task of installing nurseries to provide the necessary vegetative material for plantations.

It is important to know the lessons learned from piloting forest incentives, since BioCLIMA will promote the conservation of natural forests through its sustainable use.

**Objectives:**

To contribute in the medium and long term, to a greater dynamism of the forest and wood sector.

**Components/Outcomes:**

1. Forest governance and institutional development.
2. Development of a system of forest incentives for the promotion of commercial plantations.
3. Capacity development of human resources of the wood value chain.
4. Strengthen and develop the skills and abilities of workers and professionals integrated in SMEs along the different links of the wood value chain.

**Brief description:**

The CAVAMA project supported the wood value chain in Nicaragua pointing out how to improve key weaknesses with a multi-level approach, involving the various public and private actors.

It was implemented through 4 components that addressed the issues of forest governance, an incentive fund for commercial forest plantations, the qualification of human resources of the value chain on all levels and increasing the competitiveness of SMEs in second transformation of timber.

Its main counterparts were INAFOR / FONADEFO, MIFIC, MEFCCA and INATEC. INAFOR implemented Components 1 and 2 through the programme-estimates modality; Components 3 and 4 have been implemented by GIZ through the mechanism of delegated cooperation. The general coordination of the project was assigned to INAFOR.

**Status:**

Closed.

## 8. Building climatic resilience in the fine cocoa and honey sectors (ADAPTA)

### Name of Project /Programme:

Building climatic resilience in the fine cocoa and honey sectors (ADAPTA).

### Executing entity:

Ingemann, Centro Humboldt, Christian Aid.

### Funding:

- Multilateral Investment Fund (IADB) 36%
- Counterpart 36%
- Nordic Development Fund (Co-financing) 28%

### Budget:

USD 2,578,799

### Project/Programme execution:

2016-2019.

### Intervention area:

Nueva Segovia, Matagalpa and Jinotega.

### Complementarities / synergies to or lessons learnt for Bio-CLIMA:

Project is generating scientific and phenological information and direct training to producers, enabling them to take their own decisions based on verified forecasts to meet their needs.

Bio-CLIMA could replicate this model of local capacity development in other areas where the project will promote cocoa agroforestry systems.

Producers will be able to anticipate changes in order to reduce the risks of the impacts of climate change and not only secure, but also increase the production of cocoa.

### Objectives:

Support small and medium producers of fine cocoa and honey in Nicaragua to develop greater resilience against climate change.

This objective is expected to be achieved through the facilitation of access to i) climate information in an appropriate format; ii) solutions technologies in the face of climate change; as well as iii) facilitate the conditions for better access to credit for the acquisition of those solutions.

### Components/Outcomes:

1. Climate research and vulnerability analysis of the fine cocoa and honey value chains.
2. Strengthening fine cocoa and honey producers' resilience to change climate change and the development of resilient business models.
3. Improvement of credit access for climatic resilience.
4. Knowledge management and communication strategy.

### Brief description:

The key to the intervention model lies in the fact of working with an anchor company of Ingemann's characteristics: established in Nicaragua to root of a development project, awarded on several

occasions for its innovative and inclusive model, and interested in sharing knowledge as in supporting a pilot experience within its productive scope.

In association with Ingemann, Christian Aid brought extensive experience both in the sectors targeted by the project and in the theme of climate change, and the Humboldt Center, an expert entity in aspects related to climate information.

The intervention model has been defined in order to deal with sequentially each of the previously identified problems, so that each of the objectives achieved contributes in an orderly manner to the achievement of the ultimate goal of the project.

According to the logic of the execution model, the priority problem was limited awareness and information about the impact of climate change and the possible responses to it. Therefore, awareness-raising objectives were established about the phenomenon of climate change among the beneficiaries of the project and climate information was generated and processed in a simplified way so that it could be useful for project beneficiaries. The awareness activities focused on highlighting i) the role that climate change plays in day-to-day small producers; ii) the importance of having climate information and weather forecasts; and iii) the answers given to this problem in other places in the region and the world. This will create interest between beneficiaries in the later phases of the project, while at the same time quality forecasts for specific areas of Nicaragua were done.

The base of awareness and information obtained in the first phase facilitated the understanding of small producers about the problem.

The project also will develop technological and strategic solutions to face climate change, both in the form of good practices and at the level of technologies. International experts and technology providers will play an important role in this phase. Based on previous activities, resilient business models will be designed and project beneficiaries will be trained in these solutions.

A pilot experience will demonstrate in a practical way the effectiveness of said solutions, thus providing empirical evidence in this regard. The purpose of said experience will be to test resilient solutions in the economic field in which the project is circumscribed.

Once the awareness about the climatic problems has been created and viable solutions have been identified and tested, the next phase will work in the provision of support to relevant financial entities in the project area so that they incorporate specific tools to assess their exposure to climate risks and understand the economic benefit of the solutions and systems developed by the project. PROADAPT will test a climate risk analysis tool for the business portfolio of these financial entities.

**Status:**

Closing.

## 9. Innovation and Diffusion of Adaptation Technologies of Agriculture to Climate Change in Nicaragua (AGRIADAPTA)

### **Name of Project /Programme:**

Innovation and Diffusion of Adaptation Technologies of Agriculture to Climate Change in Nicaragua (AGRIADAPTA).

### **Executing entity:**

Nicaraguan Institute of Agricultural Technology (INTA), Ministry of Environment and Natural Resources (MARENA).

### **Funding:**

Swiss Agency for Cooperation and Development – COSUDE (USD 8,736,788).

### **Budget:**

USD 8,736,788

### **Project/Programme execution:**

2016-2020

### **Intervention area:**

19 municipalities:

- Santa Rosa del Peñón, El Jicaral, La Paz Centro and Nagarote (León)
- Ciudad Darío (Matagalpa)
- Teustepe (Boaco)
- San Francisco Libre, Tipitapa, Mateare, Villa El Carmen, Ciudad Sandino, Managua, Ticuantepe, El Crucero and San Rafael del Sur (Managua)
- Nindirí, Masaya, Tisma and La Concepción (Masaya)

### **Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

The project has been recently restructured and the areas of intervention do not match those of Bio-CLIMA. However, Bio-CLIMA could replicate some of the adaptation technologies promoted by AGRIADAPTA.

### **Objectives:**

To increase the adaptation capacity to climate change of families of small and medium-sized agricultural producers and their communities, through the diffusion, application and adoption of technologies and agroecological practices, in 19 municipalities of the dry corridor of Nicaragua, thus contributing to the reduction of crop losses, increase in productivity and improvement of the quality of life of the participant families.

### **Components/Outcomes:**

1. Capacity development.
2. Community management for Adaptation to Climate Change.
3. Validation and technology transfer.

### **Brief description:**



The main problem addressed by AGRIADAPTA is the high vulnerability of the livelihoods of the families of small and medium-sized producers due to the effects of climate change and the limitations of adopting technologies and agroecological practices in the 19 municipalities of the dry corridor of Nicaragua.

**Status:**

On going.

## 10. Adaptation of Nicaragua's Water Supplies to Climate Change (PACCAS)

### Name of Project /Programme:

Adaptation of Nicaragua's Water Supplies to Climate Change (PACCAS).

### Executing entity:

- Ministry of Environment and Natural Resources (MARENA)
- Emergency Social Investment Fund (Nuevo FISE)
- National Water Authority (ANA)

### Funding:

Special Climate Change Fund (SCCF).

### Budget:

USD 6,000,000

### Project/Programme execution:

2013-2017

### Intervention area:

5 municipalities: Juigalpa, Murra, San Ramón, San Juan de Limay and Corn Island.

### Complementarities / synergies to or lessons learnt for Bio-CLIMA:

According to the Project Completion Report<sup>6</sup>, the following lessons learned and recommendations can be identified:

- When attempting to pilot an innovative approach, other project elements should be kept as simple as possible.* The present project introduced important innovations in the overall approach to the installation of rural water supply systems by taking measures to strengthen their resilience to climate change. However, because of the participatory community selection process, the sites selected for the pilots were geographically remote and/or consisted of houses that were dispersed, which contributed to the increase in actual costs for installation of these systems compared with those assumed at appraisal. Had communities to which there was more ready access and/or lower dispersion of houses been selected, some of these additional costs could have been avoided and a larger number benefitted.
- Piloting new and innovative approaches to climate change adaptation is a feasible way to test and learn how to strengthen community resilience.* The project supported innovative pilot interventions to adapt rural WASH investments to increasing climate variability and change. It also supported relevant technical studies to underlie policy and project investment design decisions and, thus, more sustainable water resource management and related interventions in Nicaragua. These studies provided critical knowledge on the definition of the recharge area of local aquifers which lead to the definition of action to better protection and integration of climate change adaptation measures in local rural water supply investments.
- Participatory approaches are key for successful implementation.* One of the project's principal strengths was the participatory approach it followed throughout implementation. MARENA and FISE involved the municipalities, community organizations, and final beneficiaries from the early stages,

<sup>6</sup> <http://documents.worldbank.org/curated/en/707031548692767853/pdf/icr-icr00004536-nicaragua-01242019-636841368177778655.pdf>

including by organizing workshops, sharing information, and training and educating stakeholders along the way. The technical work that was developed and used during the initial years was shared with a broad range of actors, and their feedback was incorporated in subproject design through a learning-by-doing process. The project, in fact, achieved more in terms of education on climate change adaptation and environmental management than initially envisaged due to its participatory approach, which helped to build stronger adaptation capacity and thus resilience to climate change impacts at the rural community, municipal, and national levels.

d. *Strong Financial Management oversight is critical especially in a project with more than one implementing agencies.* As result of close Bank supervision missions, fiscal management issues were detected that dated back to the beginning of project implementation and had initially passed unnoticed by other Bank team, the external auditors, and the GoN. It took almost four months to clear the financial books and clarify the budget remaining for each institution which was unclear. As a result, closer FM supervision was done by the Bank and borrower. This experience generated important lessons for both project management and the Bank with respect to financial supervision and performance during the final year of implementation.

e. *Adaptive management is essential.* Finally, the project exemplifies the critical importance of adaptive management by both Government and the Bank for successful implementation. The decisions both to change the methodology for the CES Program that helped activate payments to participating farmers and to utilize the Community-Guided Project (CGP) approach as the modality for implementing local water supply systems illustrate this point. These modifications were crucial for the project's ability to achieve an on-schedule, onbudget, inclusive, and more-sustainable completion of the community subprojects than would otherwise have been the case.

#### **Objectives:**

The Development Objective of the Project is to enhance climate resilience of investments in Nicaragua's rural water supply sector to cope with both increasing climate variability and expected adverse impacts of climate change in selected areas.

#### **Components/Outcomes:**

1. Pilot Projects in Areas Vulnerable to Climate Change and Variability.
2. Wetland Protection and Reduction of Vulnerability to Climate Change in Coastal Areas – Corn Island.
3. Institutional Strengthening to Integrate Climate Change within the Water Supply Sector.

#### **Brief description:**

Nicaragua's strategic water resources for current and future water supplies are vulnerable to the effects of climate change due to the high frequency of extreme weather events, floods and hurricanes, in addition to the pressures from pollution from untreated wastewater, agricultural runoff and other sources. At the national level, the 8,000 sq km Lake Nicaragua (Cocibolca) and its tributaries within the greater San Juan River watershed are the strategic source of freshwater in the future. As recognized by the Water Law and the National Development Plan, Lake Nicaragua (Cocibolca)—the second largest in Latin America—is a strategic water resource not only for Nicaragua, and eventually Managua, but also for the Central American region. Deforestation, pasture burning, pollution by agrochemicals and untreated wastewater and unsustainable land use in the watershed have resulted in very high sediment and nutrient runoffs to the lake which, if the current trend continues, would have high economic, environmental and social costs.

The Government of Nicaragua has set ambitious targets to extend water supply and sanitation networks in rural areas, paying special attention to increase their resilience to climate change.

#### **Status:**

Closed.

**11. Strengthen institutional and technical capacities in the agricultural and forestry sectors of Nicaragua to respond to the requirements of the enhanced transparency framework under the Paris Agreement.**

**Name of Project /Programme:**

Strengthen institutional and technical capacities in the agricultural and forestry sectors of Nicaragua to respond to the requirements of the enhanced transparency framework under the Paris Agreement (CBIT).

**Executing entity:**

- Ministry of Environment and National Resources (MARENA).
- National Forestry Institute (INAFOR).
- Nicaraguan Institute of Agricultural Technology (INTA).
- Nicaraguan Institute of Territorial Studies (INETER).

**Funding:**

Global Environment Facility (GEF).

**Budget:**

USD 1,000,000

**Project/Programme execution:**

2019-2022.

**Intervention area:**

National scope.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

Nicaragua is implementing a National System for Monitoring, Reporting and Verification (SNMRV). The Carbon Module of this system will measure, monitor, report and verify the state and conditions of Nicaragua's forests, as well as deforestation and forest recovery. It will report on avoided emissions as well as those that occur due to changes in carbon stocks nationwide.

The CBIT project will support the development of allometric equations calibrated with national data, prior to the first monitoring event (2020-2021).

Additionally, the CBIT project will support the operation of the MRV Board that distributes the GHG monitoring functions of the AFOLU sector between MARENA, INAFOR and INETER.

These activities will lay the foundation and create the conditions for information generation and management systems to generate data and intelligence to support law enforcement and deter infringement in the forest sector, as stated in BioCLIMA.

**Objectives:**

Strengthen technical and institutional capacities in the agricultural and forestry sectors to comply with the requirements of the enhanced transparency framework under the Paris Agreement, in line with

Nicaragua's National Human Development Program and the guidelines of the Policy on Mitigation and Adaptation to Climate Change.

**Components/Outcomes:**

1. Strengthening institutional capacities to meet the requirements of the Enhanced Transparency Framework (ETF) of the Paris Agreement in the agricultural and forestry sectors.
2. Research and generation of information for strengthening the reporting and the monitoring of progress made with mitigation and adaptation actions in the agricultural and forestry sectors.
3. Dissemination of best practices and lessons learned at the national and international level.

**Brief description:**

According to paragraph 85 of the COP 21 decision adopting the Paris Agreement, the Capacity Building for Transparency Initiative (CBIT), has the following objectives:

- i. Strengthen national institutions for activities related to transparency in accordance with national priorities;
- ii. Provide relevant tools, training and assistance to comply with the provisions stipulated in Article 13 of the Agreement; and
- iii. Help improve transparency over time.

Based on the Government of Nicaragua willingness and making use of the CBIT approach, the project hopes to strengthen both institutional and technical capacities in the agricultural and forestry sectors to respond to the requirements of the enhanced transparency framework defined in Article 13 of the Paris Agreement.

This project will contribute to the improvement of local and global environmental conditions through enhanced transparency of coordinated action and planning and capacity-building activities in the agriculture and land-use sector for monitoring and reporting. Increased transparency will contribute to the collective progress towards achieving the purpose of the Paris Agreement and build trust and global confidence in the progress.

The Global Environment Facility approved the Project on November 2018 and now is on its detailed formulation phase.

**Status:**

In formulation.

## 12. Enhancing Hydrological, Meteorological, and Climate Products and Services in Nicaragua

### Name of Project /Programme:

Enhancing Hydrological, Meteorological, and Climate Products and Services in Nicaragua.

### Executing entity:

- Ministry of Finance and public Credit (MHCP).
- Nicaraguan Institute of Territorial Studies (INETER).

### Funding:

Green Climate Fund (Readiness funding).

### Budget:

USD 993,149

### Project/Programme execution:

24 months (expected starting date January, 2020).

### Intervention area:

National scope.

### Complementarities / synergies to or lessons learnt for Bio-CLIMA:

This proposal will benefit BioCLIMA's Component 3 *Adaptive capacity development*, as INETER's monitoring and evaluation capacities will be strengthened to produce and manage better hydro met information and reports.

### Objectives

The Readiness proposal has two concurrent general objectives as follows:

1. To enhance national capacities across the entire value chain of hydrometeorology and climatic information in order to reach the ultimate goal: *informed decision-making leading to an increase in resilience and reduction of risk*. Specific objectives are:
  - To ensure an updated and coherent institutional Legal Framework for INETER according to its Strategic Planning.
  - To engage end-users of climatic and hydrometeorology information to capture their different requirements in terms of information services and preferable communications media.
  - To generate specialized institutional capacities in hydrology and meteorology at an advanced academic level.
  - To improve hydrological models at conditions in Nicaragua that provide timely and reliable information to improve the Early Warning Systems and support the management of water resources.
  - To rescue data (in meteorology and hydrology) and generate longer and consistent data series in order to analyze climate change trends, climate variability and conduct better forecasts. As well as to support the formulation of projects with rigorous climate evidence.

2. To strengthen national capacities to access GCF funding for priority focal areas. Specific objectives are:
  - To generate institutional enabling conditions leading to the Agreement on Privileges and Immunities to facilitate GCF operations in Nicaragua.
  - To ensure the use of ESS during project's formulation with Accredited Entities, according to national institutional framework to prevent or mitigate potential harm when implementing GCF projects.
  - To facilitate that national stakeholders take part of GFC project cycle by sharing user-friendly communication materials on GCF policies.

#### **Components/Outcomes:**

- 1) Institutional capacity and coordination mechanisms in place to govern and coordinate climate action and finance.
- 2) Country programming process.
- 3) Climate finance strategies and project pipeline strengthened.

#### **Brief description:**

The Nicaraguan Government has stressed the importance to strengthen national capacities in meteorology and hidrology services in several Public Policies. Additionally, the national experience during formulation of GCF's projects has shown a consistent limitation related to the availability of climate change information.

If hydro meteorological and climate services were to improve, there would be a direct impact in climate change country planning and project development, more specifically:

- Development of studies of variability and climate change, and thus make future climate forecasts using statistical models.
- Better national communications of climate change to the United Nations Framework Convention on Climate Change.
- Better daily weather forecast using the data historical since about 1970.
- Analysis of observed data and characterize the local climatology by regions which contributes to improve and understand the climate according to the geographical characteristics of the country.
- Extended term of predictions so that warnings can reach vulnerable communities with sufficient anticipation to climate-related disasters, avoiding human lives and crops losses.

Between 2017-2018, INETER with the World Bank's support and the Global Facility for Disaster Reduction and Recover (GFDRR) prepared a Strategic Planning Document titled: Modernization Plan for hydro meteorological and climate services 2020-2024 (Modernization Plan). This instrument was formulated under an extensive institutional analysis and consultation process with partner institutions that now integrate the National Climate Change Response System.

This Readiness proposal builds on the findings and strategies laid out on this Plan and will contribute to the enhancement of national capacities across the entire value chain of hydrometeorology and climatic information in order to reach the ultimate goal: informed decision-making leading to an increase in resilience and reduction of risk. The value chain begins

with the observation of weather and climate, followed by the analysis of the data and creation of forecasts, the development of specific products/outputs, dissemination and communication of the findings, the interpretation by the end-users, and the application and decision-making to achieve the expected benefit as a result.

**Status:**

In formulation.

13. (TCP/NIC/3705/C4) Assistance to the implementation of the National Policy for Mitigation and Adaptation to Climate Change in the AFOLU sector

**Name of Project /Programme:**



Assistance to the implementation of the National Policy for Mitigation and Adaptation to Climate Change in the AFOLU sector.

**Executing entity:**

- Ministry of Environment and National Resources (MARENA).
- National Forestry Institute (INAFOR).

**Funding:**

Food and Agriculture Organization (FAO).

**Budget:**

USD 99,000

**Project/Programme execution:**

September 2018 – December 2019.

**Intervention area:**

National scope.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

This project contributes to the creation of an enabling environment for the implementation of BioCLIMA, as it strengthens institutional capacities for the effective implementation of the Climate Change Mitigation and Adaptation Policy and the fulfillment of the commitments acquired under the Paris Agreement related to the AFOLU sector.

The project also establishes an alliance with the “Emissions Reduction Strategy from Deforestation and Forest Degradation” financed with resources from the Forest Carbon Partnership Facility (FCPF), which has provided resources for territorial consultation of the National Forest Program (NFP) update process and the technological equipment necessary to strengthen the forest control system.

**Objectives**

The project develops technical and operational capacities in national institutions with a mandate for the sustainable management of natural resources and the approach to climate change.

Specifically, it supports the updating of the main policy and regulatory instruments for forest sector management, the modernization of the forest control system and the planning of the Second National Forest Inventory.

Project also provides technical assistance to institutions on access to financial resources of global climate funds.

**Components/Outcomes:**

1. Policy instruments for the sustainable management of forest resources to face climate change, updated.

2. Tools and procedures for forest monitoring, evaluation, control and traceability designed and implemented.
3. National institutions with strengthened technical capacities to access climate finance.

**Brief description:**

Through the project national institutions strengthen their capacities for the effective implementation of the Climate Change Mitigation and Adaptation Policy and the fulfillment of the commitments under the Paris Agreement related to the AFOLU sector.

**Status:**

On going.

**14. Resilient Central America (ResCA) Nicaragua**

**Name of Project /Programme:**

Promoting the adoption of silvopastoral systems that improve milk and beef production while conserving Nicaragua's natural resources.

**Executing entity:**

- The Nature Conservancy (TNC) in coordination with:
- TechnoServe
- LALA Group
- Center for Research in Sustainable Systems of Agricultural Protection (CIPAV).

**Funding:**

United States Department of State.

**Budget:**

USD

**Project/Programme execution:**

18 months.

**Intervention area:**

Municipalities of Boaco and Matagalpa.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

The project will select 35 farms to implement intensive and sustainable silvopastoral practices. These farms will then be used as demonstration sites and models to identify best practices to train additional farmers. In addition to silvopastoral practices, farmers will be trained in credit management, accounting, and watershed and forest management to increase productivity and resilience.

**Objectives**

To strengthen resilience to climate change and implement healthy agricultural systems across the via lactea region in Nicaragua.

**Components/Outcomes:**

1. Transfer intensive silvopastoral and business management technologies and best practices by directly training producers and other organizations.
2. Promote win-win partnerships among dairy sector actors (processors, lenders, cooperatives) that can help producers adopt recommended best practices.
3. Influencing the dairy sector (anchor firm processors, lenders and sectoral trade associations) to promote sustainable silvo-pastoral practices.

**Brief description:**

The Nature Conservancy, in coordination with TechnoServe, Lala, and the Center of Research on Sustainable Systems of Agricultural Protection (CIPAV), will support the adoption of silvopastoral systems – which are productive systems that integrate cattle ranching and tree planting. In addition to contributing to the conservation of soils, these systems represent an additional source of shade and food for cattle, increasing its productivity, and strengthening its resilience to climate change. This project will engage stakeholders from across the value chain, including farmer cooperatives, dairy transformers, suppliers, financial entities, donors and farmer associations. At least 5 cooperatives

from Boaco and Matagalpa will participate in the project, and at least 700 small and medium farmers will be direct beneficiaries.

The project goals will be achieved through:

- a. Technology transfer and best practices
- b. Partnership building
- c. Support for stakeholders to establish sustainable practices

**Status:**

On going.

**15. Strengthening the resilience of multiple-use protected areas to deliver multiple global environment benefits**

**Name of Project /Programme:**

Strengthening the resilience of multiple-use protected areas to deliver multiple global environment benefits.

**Executing entity:**

Ministry of Environment and Natural Resources (MARENA)

**Funding:**

Global Environment Facility (GEF-5).

**Budget:**

USD 5,800,000

**Project/Programme execution:**

60 months.

**Intervention area:**

Wiwili, El Cua, Somotillo, Villanueva, Morazán, El Viejo, San José, Camoapa, Boaco, Santa Lucía, Comalapa, Juigalpa, Cuapa, Moyogalpa, and Altagracia.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

The project includes a pilot activity of payment for results as an incentive for conservation (USD 700,000), in alignment with the National Strategy of Avoided Deforestation (ENDE-REDD +).

The pilot is to be implemented in 30,000 hectares within the ERP accounting area, in the Kilambé-Peñas Blancas Biological Corridor, but it is being valued to expand the connectivity zone to Cerro Saslaya (Siuna).

Project also includes financing for monitoring, reporting and verification (MRV) of the pilot.

Lessons learned from this process could serve as inputs if it is decided in the future to use this compensation scheme in the BioCLIMA project.

**Objectives**

To strengthen the management effectiveness of multiple-use protected areas and the sustainable use of dry and humid forests in the wider landscape in western and north-central Nicaragua, to ensure the flow of multiple ecosystem services, ensuring biodiversity conservation, sustainable land management and climate change mitigation from land use change.

**Components/Outcomes:**

1. Strengthened capacity and financial sustainability of the multiple-use protected areas in dry forest and humid, semi-humid, and cloud forest landscapes of western and north-central Nicaragua.
2. Multiple global environmental benefits generated through sustainable forest and land management outside multiple-use protected areas.

**Brief description:**

Project proposes to overcome deforestation, land degradation and threats to biodiversity through strengthened multiple-use protected areas management that conserves core areas nested in a wider landscape where multiple environmental benefits are delivered by sustainable forest and land management in the western and north-central regions of Nicaragua. A protected areas management approach that successfully integrates biodiversity conservation and the sustainable use of natural resources into the landscape will effectively reduce threats originating outside of the protected areas

and will contribute to the reduction of deforestation and desertification, enhance carbon stocks, and maintain forest cover between protected areas.

This will be achieved through a 5-year multifocal strategy that includes:

- a) improved management effectiveness of twelve (12) existing multiple-use protected areas;
- b) reduced threats in 12 multiple-use protected areas (non-sustainable agriculture and cattle-ranching, illegal logging, trade of vulnerable and endangered species, and forest fires) across an area of 178,441.93 hectares (ha);
- c) reduced vulnerability of threatened biodiversity, including 104,233 ha of dry forest habitat and 21,436 ha of humid forest habitat secured and stable numbers of key species of biological groups (mammals, birds, and plants) in the prioritized project sites;
- d) improved ecosystem structure and functionality of tropical dry and humid forests strengthened through the consolidation of four biological corridors, including enhanced connectivity between remnants of endangered tropical forest habitat outside of multiple-use protected areas, stable populations of indicator species, restored carbon stocks of threatened tropical dry forest (83,421 tCO<sub>2</sub>-eq sequestered) and tropical humid forest (110,789 tCO<sub>2</sub>-eq sequestered), and sustained water flows in 10 watersheds;
- e) reduction in humid forest deforestation (137,127 tCO<sub>2</sub>-eq avoided emissions over a 5-year period); and
- f) an increase in the management and technical capacity of 270 municipal officials and local communities for sustainable forest and land management in dry and humid forest landscapes.

**Status:**

Approved by GEF, awaiting for the first disbursement.

**16. Resilient Landscapes Management Project.**

**Name of Project /Programme:**

Resilient Landscapes Management Project.

**Executing entity:**

Ministry of Environment and Natural Resources (MARENA)

**Funding:**

Global Environment Facility (GEF-6).

**Budget:**

USD 4,300,000

**Project/Programme execution:**

60 months.

**Intervention area:**

Dipilto, Jalapa, San Fernando, Mozonte, San Lucas, Somoto, Las Sabanas, San José de Cusmapa, La Trinidad, Estelí, San Nicolas, El Sauce, San Ramón and Prinzapolka.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

The project will be implemented in seven protected areas in the pine and oak-oak ecoregion in the dryland corridor and two protected areas in the Caribbean pine forest ecosystem in the humid tropical forest in Nicaragua.

The following outputs will complement Bio-CLIMA efforts:

- a. Implementation of a pilot project of payment for results ENDE-REDD+
- b. Incorporation of biodiversity and landscape restoration in national agendas, strategies and development plans
- c. Design and operation of a participatory system for Biodiversity M&E

**Objectives**

To strengthen the National Protected Areas System and support sustainable land use and restoration practices in selected areas of the Dry Corridor of Nicaragua to foster biodiversity conservation, resilient landscapes, and local livelihoods.

**Components/Outcomes:**

1. Strengthening the Protected Area Management System and conservation of biodiversity.
2. Landscape restoration for biodiversity, resilience, and local livelihoods.
3. Mainstreaming biodiversity and restoration for resilient landscapes at the institutional and development sectors.
4. Monitoring, evaluation and project management.

**Brief description:**

Project will work on four main components:

Component 1 (i) will strengthen the institutional capacity for PA management and, (ii) will foster the restoration of important habitats through the restoration and protection of *Pinus oocarpa*, *P. maximinoi* and *Quercus* sp. forests in the departments of Estelí, Madriz and Nueva Segovia; *Pinus patula*, ssp. *tecunumanii* in the Yúcul Genetic Resources Reserve in the San Ramón, department of Matagalpa and *Pinus caribaea* in the Alamikamba and Limbaika Nature Reserve, in the municipality of Prinzapolka, RACCN.

Component 2 will focus its actions on two lines (i) resilient landscapes, by restoring degraded forests/areas through the implementation of farm plans under sustainable land management practices (MST), agroforestry or silvopastoral systems and (ii) the piloting of payment for results within the framework of the ENDE-REDD +/ERPD.

Component 3 will promote the incorporation of the theme of biodiversity and resilient landscapes into the agendas and development plans of central and local government institutions to contribute to the fulfillment of at least 5 strategic lines of the National Biodiversity Strategy 2015-2020.

Component 4 will focus its work on two subcomponents (i) biodiversity M&E and (ii) project management.

**Status:**

Concept approved by GEF, in detailed formulation.

**17. Modernization plan of hydro meteorological and climatic services for Nicaragua.**

**Name of Project /Programme:**

Modernization plan of hydro meteorological and climatic services for Nicaragua.



**Executing entity:**

Nicaraguan Institute of Territorial Studies (INETER).

**Funding:**

Green Climate Fund (FVC); to be submitted under the Simplified Approval Process (SAP).

**Budget:**

USD 10,000,000

**Project/Programme execution:**

48 months.

**Intervention area:**

National scope.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

The project will address the areas of “livelihoods of people and communities” and “food and water security”, two strategic outcome areas of the Green Climate Fund to increase resilience to climate change. The proposed project would address these challenges on the basis of enhancements on a sustainable and comprehensive strengthening of hydromet services followed by the development of tailored services and information to support food and water security and disaster risk reduction using a value chain approach.

One of the main outputs of the project is to increase generation and use of climate information in decision-making, through optimization and upgrade of the weather, hydrology and climate stations networks for provision of reliable and timely data for operation of EWS and climate services (including drought monitoring) for vulnerable communities and agriculture and water sectors.

Upgrade of atmospheric observations for the provision of more accurate weather forecasts will include remote sensing equipment, such as direct reception of satellite images and information, and meteorological marine buoys to monitor sea and weather conditions in the Pacific and Atlantic coasts. Bio-CLIMA.

The installation of this climate monitoring equipment could be proposed in the Bio-CLIMA intervention areas, to complement both projects.

**Objectives**

To strengthen Nicaragua’s resilience and adaptive capacity to climate change and related impacts on the population, livelihoods and economy.

**Components/Outcomes:**

1. Strengthened institutional systems for climate- responsive operational, planning and development.
2. Increased generation and use of climate information in decision- making.
3. Increased resilience of the most vulnerable people, communities, and regions.
4. Strengthened adaptive capacity and reduced exposure to climate risks.
5. Increased resilience of food and water security.

**Brief description:**

The development objective of the proposed project is to strengthen Nicaragua’s resilience and adaptive capacity to climate change and related impacts on the population, livelihoods and economy.

The project will specifically contribute to this wider goal by enhancing protection of lives through better early warning systems and contributing to water and food security by means of developing the capacity of warning and hydrometeorological services.

Comprehensive strengthening of the service providers, primarily INETER, is the indispensable foundation for protecting the population, agriculture and water resource from climate change and weather extremes. Thereby, a value chain approach is used which identifies all actions and links required to achieve the goal of informed decision-making leading to an increase in resilience and reduction of risk.

**Status:**

Concept Note in formulation.

**18. Biodiversity Protection, emission reduction and SAT improvement in the Indio Maíz Biological Reserve.**

**Name of Project /Programme:**

Biodiversity Protection, emission reduction and SAT improvement in the Indio Maíz Biological Reserve (preliminary name).

**Executing entity:**

Ministry of Environment and Natural Resources (MARENA).

**Funding:**

Global Environment Facility (GEF-7).

**Budget:**

USD 7,370,000

**Project/Programme execution:**

60 months.

**Intervention area:**

El Castillo, San Juan de Nicaragua and Bluefields.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

Like Bio-CLIMA, the Project will reduce deforestation and degradation of forested areas of the Indian Corn Reserve by updating the Reserve's management plan and strengthening local capacities to implement it and to apply environmental regulations in general.

The Project will identify economic alternatives in the area of influence and buffer zone of the Reserve and will strengthen local capacities to implement them.

Likewise, it will strengthen the presence of indigenous territories in the spaces for participation and consultation regarding the conservation of the reserve.

**Objectives**

Contribute to the restoration of ecosystems and landscapes of the Indio Maíz biological reserve.

**Components/Outcomes:**

1. Conservation of biological wealth in the Indio Maíz Reserve.
2. Promotion of sustainable economic alternatives of indigenous communities in the reserve.
3. Strengthening of governance of indigenous territories located within the reserve.

**Brief description:**

The project will provide greater public information and awareness of deforestation and how it can be avoided or mitigated; Through it, territorial and community development plans, land use zoning, resource maps, environmental guides and culturally appropriate technical standards will be updated and disseminated.

The project will provide technical assistance and exchange experiences and facilitate market access for the sustainable intensification of coffee and cocoa cultivation through agroforestry systems (SAF) to approximately 10,000 producers.

The target areas and the farmers will coincide with the intervention areas of MEFCCA / INTA projects and will mainly include private owners. For greater effectiveness, technical assistance will be complementary.

The project is expected to contribute to the implementation of ecotourism projects, promoting the association of small and medium producers and forest owners.

**Status:**

Preliminary idea.

**19. Conservation of Biological Diversity and local development in the Mesoamerican Biological Corridor.**

**Name of Project /Programme:**

Conservation of Biological Diversity and local development in the Mesoamerican Biological Corridor.

**Executing entity:**

Ministry of Environment and Natural Resources (MARENA).

**Funding:**

German Corporation for International Cooperation (GIZ).

**Budget:**

€ 8,000,000 (Honduras and Nicaragua).

**Project/Programme execution:**

60 months.

**Intervention area:**

Seven indigenous territories of the core zone of the BOSAWAS Biosphere Reserve: Mayangna Sauni Bu, Miskitu Indian Tasbaika Kum, Kipla Sait Tasbaika, Mayangna Sauni Bas, Mayangna Sauni Arungka, Mayangna Sauni As y Li Lamni Tasbaika Kum.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

As Bio-CLIMA plans to promote sustainable timber management and reforestation in indigenous territories, is important to take note of lessons learnt from this project:

1. The involvement of territorial and communal leaders or presidents is key in capacity building processes, since they must assume responsibility for monitoring and continuity of learning processes.
2. The capacity-building processes in indigenous protagonists, requires commitments and coordination of different actors, both governmental and non-governmental, so that monitoring is guaranteed.
3. The participation of women in training should be more important, because there are jobs where the contribution of women is key (for example, drying of cocoa) and the family nucleus is strengthened through the designation of activities.
4. The training proposal based on the methodology of field schools (Escuelas de Campo) was well received and appreciated by the indigenous protagonists, due to their learning-doing approach, which facilitated the learning and adoption of good practices for cocoa management.
5. The structuring of the training plan must start from the needs of the protagonists, considering their problems, limitations, needs and strengths.
6. Before starting with the implementation of the training plan, the technical personnel of the indigenous territories must be trained and oriented in each of the topics to be developed, so that knowledge is strengthened and a better approach is achieved in the methodology.

**Objectives**

Local actors in the central area of the Mesoamerican Biological Corridor improve the administration of their territories.

**Components/Outcomes:**

1. Conservation of biological wealth in the Indio Maiz Reserve.
2. Promotion of sustainable economic alternatives of indigenous communities in the reserve.
3. Strengthening of governance of indigenous territories located within the reserve.

**Brief description:**

Project contributed to the protection of the BOSAWAS Biosphere Reserve attending to the food security and sovereignty of the population, increasing its resilience to climate change, preserving, recovering and managing natural resources and sources of aquifer recharges, through conservation and economic management, social and environmental.

**Status:**

Closed.

**20. Corazón Transboundary Biosphere Reserve Project.**

**Name of Project /Programme:**

Corazón Transboundary Biosphere Reserve Project.

**Executing entity:**

- Central American Commission for Environment and Development (CCAD).
- Ministry of Environment and Natural Resources (MARENA).
- Secretariat of Natural Resources and Environment (SERNA-Honduras).

**Funding:**

Global Environment Facility (GEF-3).

**Budget:**

USD 12,400,000 (Honduras and Nicaragua).

**Project/Programme execution:**

2006-2012.

**Intervention area:**

The Corazón Reserve encompasses four protected areas: the BOSAWAS Biosphere Reserve in Nicaragua and the Tawahka Asangni Reserve, Patuca National Park, and Río Plátano Biosphere Reserve in Honduras.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

As Bio-CLIMA plans to promote sustainable timber management and reforestation in indigenous territories, is important to take note of some actions implemented with indigenous communities in BOSAWAS.

Project Corazón provided cooperation in the preparation, approval and implementation of 124 sub-projects, implemented by indigenous communities in the Reserve. A concerted effort was done in both countries to incorporate elements from local indigenous cultures in the design and implementation of activities. As a result, subprojects responded to community demands in a manner that was consistent with their local beliefs and traditional practices for the management of their vital natural resources. In the end, roughly fifty percent of all sub-projects that received financing were implemented by indigenous peoples. The Project supported the strengthening of administrative capacities for the formulation, and execution of sub-projects as well as to the management of economic gains that resulted from the activities.

The Project contributed in a modest way to the regularization of indigenous lands. In Nicaragua, support was provided for demarcation of indigenous lands and for conflict resolution activities between various stakeholders. The Project supported the creation of the first Indigenous Office for Environmental Management in the BOSAWAS Reserve. This office coordinates efforts between indigenous communities and MARENA and provides a number of specific services to the communities of the Reserve (e.g. volunteer fire fighters).

**Objectives**

To strengthen the management of the binational area in order to better preserve the important biodiversity of the Corazón Reserve, in part through improving the sustainability of the national protected area systems.

**Components/Outcomes:**

1. Strengthening of the National Protected Area Systems (SINAPs).
2. Implementation of PA Management Plans and conservation actions.
3. Monitoring and Information Management.

#### 4. Project Coordination and Administration.

**Brief description:**

The Corazón Project achieved satisfactory results in terms of promoting the sustainable use of natural resources in a critical area for global biodiversity. This was accomplished through the combination of actions aimed at: (i) strengthening institutional local capacities for the management of protected areas; (ii) promoting initiatives for participative management of natural resources and protected areas through community based sub-projects; (iii) promoting conservation of ancestral territories through joint efforts with communities, local and indigenous governments and federations; and (iv) supporting the national and binational dialog for the protection, conservation and sustainable development of shared natural resources.

**Status:**

Closed.

#### 21. Socio Environmental and Forestry Development Program II (POSAF II).

**Name of Project /Programme:**

Socio environmental and Forestry Development Program II (POSAF II).

**Executing entity:**

Ministry of Environment and Natural Resources (MARENA), with the participation of the National Forestry Agency (INAFOR).

**Funding:**



Inter-American Development Bank (IADB).

**Budget:**

USD 38,000,000.

**Project/Programme execution:**

2001-2008.

**Intervention area:**

Nine sub-basins: Río Estelí and Río Pire, Department of Estelí; Jigüina River, Jinotega Department; Río Molino Norte and Río San Francisco, Matagalpa Department; Río Dipilto and Río Júcaro, Department of Nueva Segovia; Río Grande, Department of Carazo; Municipality of San Francisco Libre and South Basin of Lake Managua, Department of Managua. These sub-basins comprise 22 municipalities in the North, Central and Pacific zones.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

POSAF II encouraged in the basins, productive, profitable and sustainable systems.

The systems were grouped into agroforestry and forest systems, which are interrelated with the tree component, an essential element for the proper functioning of each system responding in this way to the needs of the participating producers.

A total of 60,862.43 ha of management was established (56.3% agroforestry systems and 43.7% forest systems), the average investment cost was USD 449.26 / ha.

For the establishment of productive systems, the program promoted the development of Farm Management Plans, with the following methodology:

- Sort the farm according to the potential use of the land.
- Guide productive activities more profitable than traditional.
- Expand POSAF systems and practices to the rest of the farm and in a planned manner.
- Manage support and financing for implementation of the farm plan.

The majority of POSAF II beneficiaries were small and medium producers and a total of 16 production systems were established: 9 in forest systems and in all basins seven agroforestry systems: ecoforestry coffee (CEF), trees with clean crops (ACL), silvopastoral system (SSP), energy reforestation (RE), natural regeneration management (RN) and natural regeneration management with pastures (MR pastures).

**Objectives**

The purpose of the program was to improve socioeconomic conditions and living standards of residents of priority Nicaraguan watersheds and lessen the impact of natural disasters in these basins, through the sustainable use and development of renewable natural resources.

The program helped advance the economy of priority watersheds in the country and make them environmentally sustainable.

Specific POSAF II objectives were to: (i) raise the income and living standards of rural producers in the priority watersheds through the sustainable management of renewable natural resources; (ii) lessen the impact of natural disasters in these basins, and (iii) train area residents and help them organize for natural resources management.

**Components/Outcomes:**

1. Sustainable natural resources management.
2. Community works for natural disaster prevention and mitigation.

### 3. Capacity-building and training for natural resources management.

#### **Brief description:**

Program had the purpose of improving the socioeconomic conditions and quality of life of the population, reducing deterioration Environmental and the impact of natural disasters.

In its operational strategy, POSAF II developed an innovative mechanism, transferring financial resources as incentives at the individual level; direct to small and medium producers at farm level, who were oriented to the transfer of technology for the restoration and consolidation of productive systems as well as to improve the family income of the beneficiaries.

Collective incentives were also implemented to influence the policies and institutional capacities of environmental management, the reduction of risk due to natural phenomena in rural communities located in the basins intervened by the program.

Its conceptual basis focused on the dissemination of new sustainable productive practices with the basin approach, to preserve the productive base of the farms, ensure higher levels of income and long-term profitability to respond to the economic and environmental problems.

The program concentrated its efforts on nine hydrographic sub-basins prioritized according to their potential for forest development, the presence of high population pressure with serious problems of rural poverty and an accelerated deterioration of renewable natural resources, due to the use of agricultural practices and inappropriate livestock.

POSAF II focused on improving social and economic conditions of population, through increasing the capacity of producers to undertake changes in forest and agricultural production for greater productivity, higher income and less environmental deterioration. To achieve its purpose, POSAF implemented operational mechanisms through NGOs and community based organizations including municipalities.

#### **Status:**

Closed.

## **22. Environmental Program for Disaster Risk Management and Climate Change (PAGRICC).**

#### **Name of Project /Programme:**

Environmental Program for Disaster Risk Management and Climate Change (PAGRICC).

#### **Executing entity:**

Ministry of Environment and Natural Resources (MARENA), with the participation of the Executive Secretariat of the National System for Disaster Prevention, Mitigation and Attention (SINAPRED), the Ministry of Agriculture and Forestry (MAGFOR), the National Forestry Institute (INAFOR), the Nicaraguan Institute for Territorial Studies (INETER) and the seven Municipal Governments located in the prioritized work area.

**Funding:**

- Inter-American Development Bank (IADB).
- Nordic Development Fund (NDF).
- Swiss Agency for Cooperation and Development (COSUDE).

**Budget:**

USD 18,011,797.

**Project/Programme execution:**

2011-2016.

**Intervention area:**

San Rafael del Norte, La Concordia, Jinotega, Estelí, La Trinidad, San Isidro, Matagalpa, San Ramón, Sébaco and Ciudad Darío.

**Complementarities / synergies to or lessons learnt for Bio-CLIMA:**

Program provided technical assistance and financial incentives for the adoption of environmental restoration systems (SRA) and the capacities of municipalities to generate municipal plans to adapt to climate change were developed.

Bio-CLIMA could replicate the methodology and processes promoted by PAGRICC.

**Objectives**

The objective of PAGRICC was to reduce the vulnerability of rural populations in Nicaragua to phenomena associated with Climate Change through risk management actions based on the management and conservation of natural resources in watersheds prioritized by their vulnerability.

Specifically, PAGRICC intended to reduce the risks in the production at the farm level, and damage to the infrastructure, caused by atypical climatic events, and thus improve the management of natural resources and risk at the municipal level and develop a regulation of the system of valuation of environmental services.

**Components/Outcomes:**

1. Support for the adoption of environmental restoration systems.
2. Infrastructure for loss reduction.
3. Capacity development.

**Brief description:**

Project strengthened the resilience of small producers with less than 35 ha, to adapt their practices productive against climate change, through promotion of agricultural management practices soil, erosion control and reduction of landslides.

Through the Project disaster damage was reduced in basic infrastructure and productive land through the construction of protection works in areas critics.

The capacities of producers, municipal technicians and institutions were developed, in terms of risk management and adaptation to Climate Change.

**Status:**

Closed.